

5 EXCEL FEATURES EVERY DATA ANALYST SHOULD KNOW

Financial Modeling in Excel

5 Excel features you should know

Data Table

A great tool for your what-if analysis. A range of cells in which you can change values in some of the cells and come up with different answers to a problem.

How to create it?

Instructions

1. Write down input data

2. Calculate the value you want to find out

3. Write down additional input data you want to test

4. Go to Data -> What-If Analysis -> Data Table

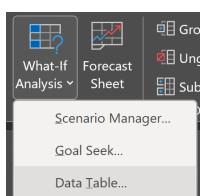
5. Put in row and column input cell that corresponds to the layout you have created in step #3 and press OK

Example

Interest rate, number of periods and starting amount if you want to see how your savings amount would differ under different scenarios

Savings amount from the initial input data

Changes in interest rate, starting amount



Row input cell - interest rate from initial input data;

Column input cell - starting amount from initial input data

Interest Rate	7%
Number of Periods	3
Starting Amount	\$ 2,000

	\$6,430	5.50%	6.00%	6.50%	7.00%	7.50%	8.00%	8.50%
\$ 1,500	\$ 4,752	\$ 4,775	\$ 4,799	\$ 4,822	\$ 4,846	\$ 4,870	\$ 4,893	
\$ 1,600	\$ 5,069	\$ 5,094	\$ 5,119	\$ 5,144	\$ 5,169	\$ 5,194	\$ 5,220	
\$ 1,700	\$ 5,386	\$ 5,412	\$ 5,439	\$ 5,465	\$ 5,492	\$ 5,519	\$ 5,546	
\$ 1,800	\$ 5,702	\$ 5,730	\$ 5,759	\$ 5,787	\$ 5,815	\$ 5,844	\$ 5,872	
\$ 1,900	\$ 6,019	\$ 6,049	\$ 6,079	\$ 6,108	\$ 6,138	\$ 6,168	\$ 6,198	
\$ 2,000	\$ 6,336	\$ 6,367	\$ 6,398	\$ 6,430	\$ 6,461	\$ 6,493	\$ 6,524	
\$ 2,100	\$ 6,653	\$ 6,686	\$ 6,718	\$ 6,751	\$ 6,784	\$ 6,817	\$ 6,851	
\$ 2,200	\$ 6,970	\$ 7,004	\$ 7,038	\$ 7,073	\$ 7,107	\$ 7,142	\$ 7,177	
\$ 2,300	\$ 7,286	\$ 7,322	\$ 7,358	\$ 7,394	\$ 7,430	\$ 7,467	\$ 7,503	
\$ 2,400	\$ 7,603	\$ 7,641	\$ 7,678	\$ 7,716	\$ 7,754	\$ 7,791	\$ 7,829	
\$ 2,500	\$ 7,920	\$ 7,959	\$ 7,998	\$ 8,037	\$ 8,077	\$ 8,116	\$ 8,156	

By changing the initial input data, your data table will update too!

Financial Modeling in Excel

5 Excel features you should know

Pivot Table

A PivotTable is a powerful tool to calculate, summarize, and analyze data that lets you see comparisons, patterns, and trends in your data.

How to create it?

Instructions

1. Have an Excel table with data
2. Go to Insert -> PivotTable and choose a table or a range you want to analyze
3. Choose fields to summarize the data by
4. Go to PivotTable Analyze or Design tabs to customize the Pivot Table

Example

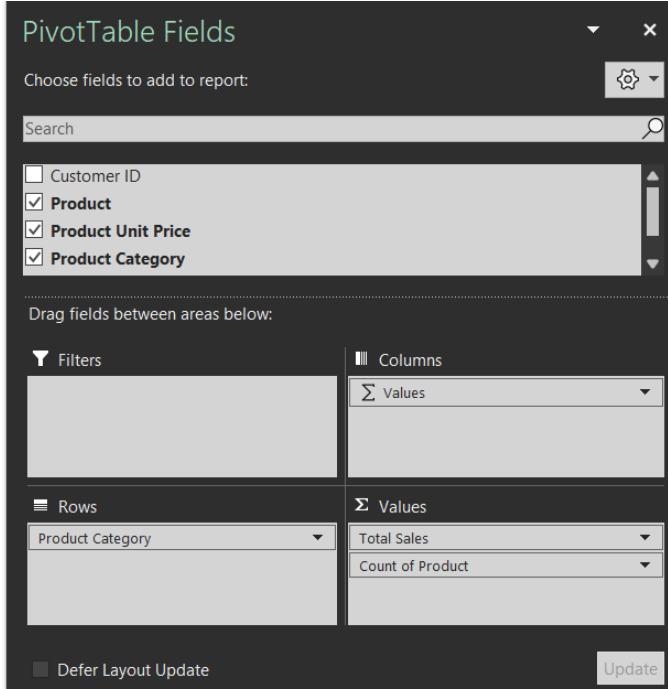
Store order history with customer ID, product ID, product price and product category

Choose the table from step 1

Look at the total sales and count of products bought by product categories. Choose columns, Rows, Filters, Values – everything is customizable and you can play with the report!

Add a slicer, insert timeline, add subtotals and other things

Summarized Data			
Product Category	Total Sales	Count of Product	
Clothing	\$ 687	3	
Furniture	\$ 845	6	
Home & Garden	\$ 319	4	
Pet Supplies	\$ 174	2	
Grand Total	\$ 2,025	15	



The screenshot shows the 'PivotTable Fields' dialog box. At the top, it says 'Choose fields to add to report:' with a search bar and a settings icon. Below is a list of fields: Customer ID (unchecked), Product (checked), Product Unit Price (checked), and Product Category (checked). A note below says 'Drag fields between areas below:'. The 'Filters' section is empty. The 'Columns' section has 'Values' selected with a dropdown showing 'Σ Values'. The 'Rows' section has 'Product Category' selected with a dropdown. The 'Values' section has two items: 'Total Sales' and 'Count of Product'. At the bottom are 'Defer Layout Update' and 'Update' buttons.

Financial Modeling in Excel

5 Excel features you should know

Data Validation

Use data validation to restrict the type of data or the values that users enter into a cell. One of the most common data validation uses is to create a drop-down list.

How to create it?

Instructions

1. Select the cell you want to create a drop-down list in

2. Select Data -> Data Validation

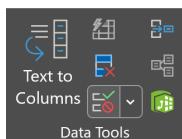
3. Choose what will the users be able to choose (numbers, dates, time, custom text, etc.)

4. Create Input Message so that users know what they are choosing

5. Link other data in your model to this dropdown list, so that values update automatically

Example

On your input data Excel sheet, create a cell where users will be able to choose between different store locations



Offer to choose from a list of store locations such as "USA, Spain, UK, Australia, Japan, Germany"

"Select Store Location"

Link profit and loss statements to geographical location of the stores from the dropdown by using "IF" statements

Store	USA	Year	2021
	Store Location		
P&L Projections			
Sales			
Domestic Sales	[\$] 78,000,000	88,627,500	93,783,659
Foreign Sales	[\$] 8,000,000	16,160,000	18,761,679
	[\$] 80,404,248	83,238,498	108,531,736
	[\$] 21,947,487	26,600,355	109,838,853
Manufacturing Costs			
Materials	[\$] 56,500,000	63,240,000	66,585,600
Direct Labor	[\$] 23,449,800	24,709,500	25,203,690
Other Direct Costs	[\$] 8,800,000	9,873,600	10,404,000
Indirect Manufacturing Costs	[\$] 1,500,000	1,530,000	1,560,600
	[\$] 26,823,333	28,684,191	11,294,035
	[\$] 32,470,350	34,722,968	12,077,554
	[\$] 1,623,648	1,656,121	
Gross Profit			
	[\$] 21,500,000	25,387,500	27,198,059
	[\$] 27,857,680	30,140,369	32,698,018
SG&A Costs			
Marketing Costs	[\$] 7,560,000	7,892,550	8,118,073
	[\$] 8,282,748	8,541,628	8,821,262
	[\$] 2,047,035	2,196,777	

Financial Modeling in Excel



5 Excel features you should know

Power Query

Power Query (known as Get & Transform in Excel) is a great tool for minimizing repetitive daily tasks. You can import or connect to external data and then shape this data. For example, remove a column, change a data type, or merge tables in ways that meet your needs. Then, you can load your query into Excel to create charts and reports.

How to create it?

Instructions

1. Connect to Data

Go to Data -> Get Data

2. Transform Data

Do all kinds of changes to your data while the original dataset stays the same

3. Combine Data

Add other datasets and make connections between them to get more insights

4. Load Data

Load the transformed and combined data to your worksheet and enjoy the clean dataset

Example

Pull in data from a different Excel file that contains participant names and stage points

Clean Data - remove unneeded columns, assign data types, rename columns for better understanding, etc.

Pull in another data source on the background of the participants - country, company, age group, etc. Append Queries.

Load the appended query into the Excel file. After each stage, add information on the points and refresh dataset.

The screenshot shows the Microsoft Power Query Editor interface. On the left, there's a 'Queries' pane with 'Table1'. The main area displays a table with columns: Stage 1 Rank, Stage 2 Rank, Stage 3 Rank, Stage 4 Rank, Stage 5 Rank, Age Group, Country, and Region. The data consists of 29 rows of participant information. On the right, there are two panes: 'Query Settings' and 'APPLIED STEPS'. The 'APPLIED STEPS' pane lists several steps: 'Source', 'Navigation', 'Changed Type', 'Replaced Value', and 'Removed Other Columns'. The 'Properties' section in 'Query Settings' shows 'Name: Table1'.

Financial Modeling in Excel

5 Excel features you should know

Group Data

If you have a list of data you want to group and summarize, you can create an outline of up to eight levels. Very important for financial models to switch between different levels of data complexity. Group data instead of hiding rows/columns!

How to do it (right)?

Instructions

1. Select rows/columns to group

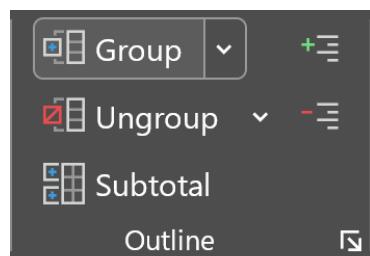
2. Go to Data -> Group -> Group

3. Group again, if you want to go into more detail

4. Press “-” to collapse the groups

Example

Level 1 – for top level management, Level 3 or 4 – for accountant in-depth data review



		A	B	C	D	E
1	2	3				
4	1					
5	2					
6	3					
7	4					
8	Period Start					
9	5					
10	Period End					
11	6					
12	Period #					
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						
32						
33						
34						
35						
36						
37						
38						
39						
40						
41						
42						
43						
44						
45						
46						
47						
48						
49						
50						
51						
52						
53						
54						
55						
56						
57						
58						
59						
60						
61						
62						
63						
64						
65						
66						
67						
68						
69						
70						
71						
72						
73						
74						
75						
76						
77						
78						
79						
80						
81						
82						
83						
84						
85						
86						
87						
88						
89						
90						
91						
92						
93						
94						
95						
96						
97						
98						
99						
100						
101						
102						
103						
104						
105						
106						
107						
108						
109						
110						
111						
112						
113						
114						
115						
116						
117						
118						
119						
120						
121						
122						
123						
124						
125						
126						
127						
128						
129						
130						
131						
132						
133						
134						
135						
136						
137						
138						
139						
140						
141						
142						
143						
144						
145						
146						
147						
148						
149						
150						
151						
152						
153						
154						
155						
156						
157						
158						
159						
160						
161						
162						
163						
164						
165						
166						
167						
168						
169						
170						
171						
172						
173						
174						
175						
176						
177						
178						
179						
180						
181						
182						
183						
184						
185						
186						
187						
188						
189						
190						
191						
192						
193						
194						
195						
196						
197						
198						
199						
200						
201						
202						
203						
204						
205						
206						
207						
208						
209						
210						
211						
212						
213						
214						
215						
216						
217						
218						
219						
220						
221						
222						
223						
224						
225						
226						
227						
228						
229						
230						
231						
232						
233						
234						
235						
236						
237						
238						
239						
240						
241						
242						
243						
244						
245						
246						
247						
248						
249						
250						
251						
252						
253						
254						
255						
256						
257						
258						
259						
260						
261						
262						
263						
264						
265						
266						
267						
268						
269						
270						
271						
272						
273						
274						
275						
276						
277						
278						
279						
280						
281						
282						
283						
284						
285						
286						
287						
288						